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it is glassy. The form of the fracture is conchoidal and perfectly smooth. Hardness between two and three. The specimen resembles in its external aspect fossil copal so much that it may be easily mistaken for that material. The fresh vitreous lustre of the amber, however, remains after repeated rubbing and exposure, while copal becomes dull under such treatment. The amber may be worked with a file or an edge tool into even surfaces; under like treatment copal crumbles, and gives an uneven glistening plane. When the finger is rubbed to and fro on the amber it will not powder or become mealy like copal. When a portion of the specimen was gently heated in a glass tube closed on one end a dense gas was obtained having the odor of burning fat. After cooling minute radiating groups of crystals were noticed; fossil copal gives no such indications. The amber burns with a yellow smoking flame, emitting an odor not so disagreeable as that given off during distillation, and leaves some unconsumed carbon. The powder is white, and, if brought in contact with oil of vitriol, it will readily dissolve, forming a ruby red solution, which, when poured into water, gives a nearly colorless precipitate partially in a crystalline state. It is decomposed by nitric acid, forming at first a soft yellow compound which afterwards dissolves. If the excess of the nitric acid be evaporated and water added, thin plates of a golden-yellow color form. These plates appear to be succinic acid; they easily dissolve in caustic ammonia, and the solution affords, with a solution of sesquichloride of iron, the well-known cinnamon-brown precipitate of succinate of iron. Both solutions were perfectly neutral. From the solution of the succinate ammonia the succinic acid can be separated on the addition of nitric acid. This process for observing succinic acid in amber is especially applicable when but a small quantity of the acid is present, in which case the process by sublimation fails or becomes uncertain. Chloroform is a good solvent for amber, but alcohol, ether, and bisulphide of carbon dissolve it only sparingly. Copal when kept in ether swells to a greater volume; amber does not increase in bulk.

OCTOBER 21.

The President, Dr. RUSCHENBERGER, in the chair.

Thirty-one members present.

A paper entitled "On some New Eocene Fossils from the Clairborne Marine Formation of Alabama," by Angelo Heilprin, was presented for publication.

Ward's Natural Science Establishment.—Prof. LEIDY stated that the reputation of Prof. Henry A. Ward's "Natural Science Establishment," at Rochester, N. Y., was such, that lately he had

been induced to make it a visit. Though he had seen collections of casts of fossils and skeletons in the museums of colleges and other institutions, from Prof. Ward's establishment, he had not been prepared to find it so extensively representing all departments of natural history as it proved to be, and even in Europe he had seen no dealer's stock that was equal to it. For the variety of its objects, and the excellence of preservation and preparation of the specimens, he recommended it to the Academy and to others as a source from whence to supply the wants and deficiencies of their cabinets. The collection of skeletons is large, and is admirable for the cleanness, whiteness, and perfect mounting of the specimens. A few thousand dollars expended in this department would be of much importance to the museum of the Academy. A collection of glass models of invertebrate animals, made by Leopold Blaschka, of Dresden, had especially attracted his attention. The models are remarkable for their accuracy and beauty, and they supply a means of illustration which has long been felt. They represent soft and delicate forms which cannot be satisfactorily preserved, and others too minute to be examined with the naked eye. Moreover their price is so moderate, that it is to be hoped that the Academy may make early provision to obtain a series. Prof. L. exhibited specimens, such as the Red Coral, *Corallium rubrum*, of the natural size and magnified; the hydroid polyp, *Hydractinia echinata*, which lives on the shell of the Hermit Crab, etc. Prof. L. added that at the present time when society was awakened to the importance of the study of natural history, Prof. Ward was worthy of the highest commendation for the ability and energy he had displayed in accumulating so ample a means for its illustration.

OCTOBER 28.

The President, Dr. RUSCHENBERGER, in the chair.

Forty-nine persons present.

The following papers were presented for publication:—

“Revision of the Palæocrinoidea, Part I., the Families Ichthyocrinidæ and Cyathocrinidæ,” by Charles Wachsmuth and Frank Springer.

“A Comparison of the Eocene Mollusca of the Southeastern United States and Western Europe in relation to the determination of identical forms,” by Angelo Heilprin.

The death of William H. Gumbes, a member, was announced.

Variations in Thuja and Retinospora.—Mr. THOMAS MEEHAN referred to his observations reported to the Academy many years